CLAIMS

1. A method of detecting the onset of an advanced neoplasm or a predisposition to developing an advanced neoplasm in a mammal said method comprising screening for the level of inhibin protein and/or gene expression in a biological sample derived from said mammal wherein an increase in the level of inhibin and/or gene expression is indicative of the onset of an advanced neoplasm or a predisposition to developing an advanced neoplasm.

2. A method of monitoring for the onset or progression of an advanced neoplasm in a mammal said method comprising screening for the modulation in the level of inhibin in a biological sample derived from said mammal wherein the level of said inhibin relative to the normal level of inhibin is indicative of the onset or progression of an advanced neoplasm.

3. The method according to claim 1 or 2 wherein the biological sample is selected from the group including serum, tissue extract, body fluids, cell culture medium, extracellular medium, supernatants, biopsy specimens or resected tissue.

4. The method according to any one of claims 1-3 wherein said advanced neoplasm is an advanced malignant neoplasm.

5. The method according to claim 4 wherein said advanced malignant neoplasm is a metastatic neoplasm.

6. The method according to any one of claims 1-5 wherein said inhibin is α-inhibin.

7. The method according to claim 6 wherein said α-inhibin is the αC region of the α-inhibin protein.

8. The method according to claim 7 wherein said αC region comprises amino acids

73-96 of the αC region.

9. The method according to claim 6 wherein said α-inhibin is the α-inhibin protein and said protein is detected utilising the monoclonal antibody PO#12.

10. The method according to any one of claims 1-9 wherein said neoplasm is a neoplasm of the prostate.

11. The method according to any one of claims 1-9 wherein said neoplasm is a neoplasm of the skin.

12. The method according to claim 11 wherein said skin neoplasm is a melanoma or a squamous cell carcinoma.

13. The method according to any one of claims 1-9 wherein said neoplasm is a neoplasm of the breast.

14. The method according to claim 13 wherein said breast neoplasm is an invasive papillary carcinoma or an infiltrating breast carcinoma.

15. The method according to any one of claims 1-9 wherein said neoplasm is a neoplasm of the lymph node.

16. The method according to claim 15 wherein said lymph node neoplasm is a lymphoma.

17. The method according to any one of claims 1-9 wherein said neoplasm is a neoplasm of the lung.

18. The method according to claim 17 wherein said lung neoplasm is a squamous cell carcinoma or a lung adenocarcinoma.

19. The method according to any one of claims 1-9 wherein said neoplasm is a neoplasm of the salivary gland.

20. The method according to claim 19 wherein said salivary gland neoplasm is a pleomorphic adenoma of the parotid gland or a salivary duct carcinoma.

21. The method according to any one of claims 1-9 wherein said neoplasm is a neoplasm of the liver.

22. The method according to claim 21 wherein said liver neoplasm is a hepatocellular carcinoma.

23. The method according to any one of claims 1-9 wherein said neoplasm is a neoplasm of the gall bladder.

24. The method according to claim 23 wherein said gall bladder neoplasm is an adenocarcinoma.

25. The method according to any one of claims 1-9 wherein said neoplasm is a neoplasm of the pancreas.

26. The method according to claim 25 wherein said pancreatic neoplasm is a pancreatic adenocarcinoma.

27. The method according to any one of claims 1-9 wherein said neoplasm is a neoplasm of the oesophagus.

28. The method according to claim 27 wherein said oesophagial neoplasm is a squamous cell carcinoma.

29. The method according to any one of claims 1-9 wherein said neoplasm is a neoplasm of the stomach.

30. The method according to claim 29 wherein said stomach neoplasm is an adenocarcinoma.

31. The method according to any one of claims 1-9 wherein said neoplasm is a neoplasm of the colon.

32. The method according to claim 31 wherein said colon neoplasm is an adenocarcinoma.

33. The method according to any one of claims 1-9 wherein said neoplasm is a neoplasm of the rectum.

34. The method according to claim 33 wherein said rectal neoplasm is an adenocarcinoma.

35. The method according to any one of claims 1-9 wherein said neoplasm is a neoplasm of the kidney.

36. The method according to claim 35 wherein said kidney neoplasm is a transitional cell carcinoma or a renal cell carcinoma.

37. The method according to any one of claims 1-9 wherein said neoplasm is a neoplasm of the bladder.

38. The method according to claim 37 wherein said bladder neoplasm is a carcinoma of the bladder or a transitional cell carcinoma of the bladder.

39. The method according to any one of claims 1-9 wherein said neoplasm is a

neoplasm with the endometrium.

40. The method according to claim 39 wherein said endometrial neoplasm is an endometrial carcinoma.

41. The method according to any one of claims 1-9 wherein said neoplasm is a neoplasm of the cervix.

42. The method according to claim 41 wherein said cervical neoplasm is a squamous cell carcinoma.

43. The method according to any one of claims 1-9 wherein said neoplasm is a neoplasm of the adrenal gland.

44. The method according to claim 43 wherein said adrenal gland neoplasm is an adrenal cortical carcinoma or an adrenal pheochromocytoma.

45. The method according to any one of claims 1-9 wherein said neoplasm is a neoplasm of the thyroid.

46. The method according to claim 45 wherein said thyroid neoplasm is a thyroid papillary carcinoma or an invasive follicular carcinoma of the thyroid.

47. The method according to any one of claims 1-9 wherein said neoplasm is a neoplasm of the brain.

48. The method according to claim 47 wherein said brain neoplasm is a meningioma.

49. The method according to any one of claims 1-9 wherein said neoplasm is a neoplasm of the testis.

50. The method according to claim 49 wherein said testis neoplasm is a testis seminoma.

51. A diagnostic kit for assaying biological samples comprising an agent for detecting α-inhibin protein or encoding nucleic acid molecule and reagents useful for facilitating the detection by the agent in the first compartment.

52. The kit according to claim 51 wherein said agent is an antibody directed to α-inhibin protein.

53. The kit according to claim 52 wherein said antibody is a monoclonal antibody.

54. The kit according to claim 53 wherein said monoclonal antibody is PO#12.

55. A method of modulating the invasiveness of a neoplastic cell, said method comprising modulating the level of intracellular inhibin protein wherein up-regulating inhibin levels to a functionally effective level induces said invasiveness and down-regulating inhibin levels to a functionally ineffective level inhibits said invasiveness.

56. The method according to claim 55 wherein said neoplastic cell is a cell of the skin, lymph node, lung, salivary gland, liver, gallbladder, pancreas, cervix or brain.

57. The method according to claim 55 wherein said neoplastic cell is a cell of the oesophagus, stomach, colon, rectum, kidney, bladder, small intestine, large intestine, larynx, nasal cavity, throat,neural tissue or endometrium .

58. The method according to claim 55 wherein said neoplastic cell is a cell of the cervix, adrenal gland, thyroid, brain or testis.

59. The method according to claim 55 wherein said neoplastic cell is a cell of the

breast.

60. The method according to claim 55 wherein said neoplastic cell is a cell of the prostate.

61. A method for the treatment and/or prophylaxis of a condition characterised by an advanced neoplasm or a predisposition to the development of a condition characterised by an advanced neoplasm in a mammal, said method comprising modulating the level of intracellular inhibin wherein down-regulating said inhibin levels to a functionally ineffective level inhibits invasiveness.

62. The method according to claim 61 wherein said neoplasm is a neoplasm of the skin, lymph node, lung, salivary gland, liver, gallbladder, pancreas, cervix or brain.

63. The method according to claim 61 wherein said neoplasm is a neoplasm of the oesophagus, stomach, colon, rectum, kidney, bladder, small intestine, large intestine, larynx, nasal cavity, throat,neural tissue or endometrium .

64. The method according to claim 61 wherein said neoplasm is a neoplasm of the adrenal gland, thyroid or testis.

65. The method according to claim 61 wherein said neoplasm is a neoplasm of the breast.

66. The method according to claim 61 wherein said neoplasm is a neoplasm of the prostate.

67. The method according to any one of claims 55-66 wherein said neoplastic cell is a malignant neoplastic cell.

68. The method according to claim 67 wherein said malignant neoplastic cell is a

metastatic neoplasm.

69. The method according to any one of claims 55-68 wherein said inhibin is α-inhibin.

70. The method according to any one of claims 55-69 wherein said modulation is downregulation of inhibin and said downregulation is achieved by contacting said neoplastic cell with a proteinaceous or non-proteinaceous molecule which functions as an antagonist to the inhibin expression product.

71. The method according to claim 70 wherein said molecule is an antibody.

72. The method according to claim 71 wherein said antibody is PO#12.

73. The method according to any one of claims 55-69 wherein said modulation is achieved by contacting said neoplastic cell with a proteinaceous or non-proteinaceous molecule which modulates transcriptional and/or translational regulation of the inhibin-α gene.

74. The method according to claim 55 wherein said modulation is upregulation of inhibin levels and said upregulation is achieved by contacting said cell with a proteinaceous or non-proteinaceous molecule which functions as an agonist of the inhibin expression product.

75. The method according to claim 55 wherein said modulation is upregulation of inhibin and said upregulation is achieved by introducing into said cell a nucleic acid molecule encoding inhibin or functional equivalent, derivative or homologue thereof or the inhibin expression product or functional derivative, homologue, analogue, equivalent or mimetic thereof.

76. Use of an agent capable of modulating the functionally effective level of α-inhibin in the manufacture of a medicament for the treatment of an advanced neoplasm or a

predisposition to developing an advanced neoplasm wherein downregulating α-inhibin levels to a functionally ineffective level inhibits invasiveness.

77. Use of an agent capable of modulating the functionally effective level of α-inhibin in the manufacture of a medicament for the regulation of the invasiveness of a neoplastic cell wherein downregulating α-inhibin to a functionally ineffective level inhibits invasiveness.

78. A pharmaceutical composition comprising an agent capable of modulating the functionally effective level of inhibin together with one or more pharmaceutically acceptable carriers and/or diluents when used in the method of any one of claims 55-69.